CLAIMS

1. A packaging machine for packaging a product, the packaging machine comprising:

a plurality of lane guides, said plurality of lane guides being spaced apart to form a plurality of lanes;

a moveable conveyor belt having a first end and a second end, said first end located beneath one of said plurality of lanes, said movable conveyor belt delivers the product to each of said plurality of lanes;

a support device located at said plurality of lanes; and

a shifting assembly attached to said plurality of lane guides.

2. The packaging machine of Claim 1, wherein said support device includes a support strip, said support strip being located at each of said plurality of lanes and is located beneath said movable conveyor belt, said support strip supports the product.

3. The packaging machine of Claim 1, wherein said support device includes a bladder pair mounted to each of said plurality of lane guides.

4. The packaging machine of Claim 1, wherein said plurality of lanes includes an appropriate number of lanes to fill a case.

5. The packaging machine of Claim 4, wherein said plurality of lanes includes a spare lane.

6. The packaging machine of Claim 1, further comprising a spacing mechanism disposed at said moveable conveyer belt.

7. The packaging machine of Claim 6, wherein said spacing mechanism includes a screw, said screw is adapted to space the product.

8. The packaging machine of Claim 6, wherein said spacing mechanism includes a side belt assembly.

9. The packaging machine of Claim 1, wherein said shifting assembly is adapted to move said lane guides from a first position to a second position, said first and second positions being spaced apart a distance substantially equal to a width of one of said plurality of lanes.

10. The packaging machine of Claim 1, further comprising a flex guide mounted to said movable conveyor belt, said flex guide being adapted to direct the product into said plurality of lanes.

11. The packaging machine of Claim 1, further comprising a sensor mounted adjacent to said plurality of lanes.

12. The packaging machine of Claim 1, further comprising a conveyor shifting assembly, said conveyor shifting assembly moves said conveyor from one of said plurality of lanes to an adjacent one of said plurality of lanes.

13. The packaging machine of Claim 1, further comprising a case feed assembly located beneath said plurality of lanes.

14. The packaging machine of Claim 13, wherein said case feed assembly is configured to position a case beneath said lane guides, the case being sized to receive the product delivered into said plurality of lanes.

15. The packaging machine of Claim 14, wherein said case feed assembly includes a feed conveyor, said conveyor is adapted to deliver the case beneath said plurality of lanes.

16. The packaging machine of Claim 15, wherein said one feed conveyor is adapted to remove the case from beneath said plurality of lanes.

17. The packaging machine of Claim 1, further comprising a controller.

18. A packaging machine for packaging a product, the packaging machine comprising:

a plurality of lane guides, said plurality of lane guides being spaced apart to form a plurality of lanes, said plurality of lanes includes an appropriate number of lanes to fill a case and a spare lane;

a moveable conveyor belt having a first end and second end, said first end located beneath one of said plurality of lanes, said movable conveyor belt delivers the product to each of said plurality of lanes;

a support device located at said plurality of lanes; and

a shifting assembly attached to said plurality of lane guides.

19. The packaging machine of Claim 18, wherein said support device includes a support strip, said support strip being located at each of said plurality of lanes and is located beneath said movable conveyor belt, said support strip supports the product.

20. The packaging machine of Claim 18, wherein said support device includes a bladder pair mounted to each of said plurality of lane guides.

21. The packaging machine of Claim 18, further comprising a spacing mechanism disposed at said second end of said moveable conveyer belt.

22. The packaging machine of claim 21, wherein said spacing mechanism includes a screw, said screw adapted to space the product.

23. The packaging machine of Claim 21, wherein said spacing mechanism includes a side belt assembly.

24. The packaging machine of Claim 18, wherein said shifting assembly is adapted to move said lane guides from a first position to a second position, said first and second positions being spaced apart a distance substantially equal to a width of one of said plurality of lanes.

25. The packaging machine of Claim 18, further comprising a flex guide mounted to said movable conveyor belt, said flex guide being adapted to direct the product into said plurality of lanes.

26. The packaging machine of Claim 18, further comprising a sensor mounted adjacent to said plurality of lanes.

27. The packaging machine of Claim 18, further comprising a conveyor shifting assembly, said conveyor shifting assembly moves said conveyor from one of said plurality of lanes to an adjacent one of said plurality of lanes.

28. The packaging machine of Claim 18, further comprising a case feed assembly located beneath said plurality of lanes.

29. The packaging machine of Claim 28, wherein said case feed assembly is configured to position the case beneath said appropriate number of lane guides, the case being sized to receive the product delivered into said appropriate number of lanes.

30. The packaging machine of Claim 29, wherein said case feed assembly includes a feed conveyor, said conveyor is adapted to deliver the case beneath said plurality of lanes.

31. The packaging machine of Claim 30, wherein said one feed conveyor is adapted to remove the case from beneath said plurality of lanes.

32. The packaging machine of Claim 18, further comprising a controller.

33. A packaging machine for packaging a product, the packaging machine comprising:

an infeed section, said infeed section includes a conveyor belt having a first end and a second end;

a grid section located adjacent to said infeed section, said grid section includes:

a plurality of lane guides, said plurality of lane guides being spaced apart to form a plurality of lanes;

a support device located at said plurality of lanes; and

a shifting assembly attached to said plurality of lane guides,

wherein said first end of said conveyor belt extends beneath one of said plurality of lanes, said first end of said conveyor belt moves to each said plurality of lanes, said conveyor belt delivers the product to each of said plurality of lanes.

34. The packaging machine of Claim 33, wherein said support device includes a support strip, said support strip being located at each of said plurality of lanes and is located beneath said movable conveyor belt, said support strip supports the product.

35. The packaging machine of Claim 33, wherein said support device includes a bladder pair mounted to each of said plurality of lane guides.

36. The packaging machine of Claim 33, wherein said plurality of lanes includes an appropriate number of lanes to fill a case.

37. The packaging machine of Claim 36, wherein said plurality of lanes includes a spare lane.

38. The packaging machine of Claim 33, further comprising a spacing mechanism disposed at said second end of said moveable conveyer belt.

39. The packaging machine of claim 38, wherein said spacing mechanism includes a screw, said screw adapted to space the product.

40. The packaging machine of Claim 38, wherein said spacing mechanism includes a side belt assembly.

41. The packaging machine of Claim 33, wherein said shifting assembly is adapted to move said lane guides from a first position to a second position, said first and second positions being spaced apart a distance substantially equal to a width of one of said plurality of lanes.

42. The packaging machine of Claim 33, further comprising a flex guide mounted to said movable conveyor belt, said flex guide being adapted to direct the product into said plurality of lanes.

43. The packaging machine of Claim 33, further comprising a sensor mounted adjacent to said plurality of lanes.

44. The packaging machine of Claim 33, further comprising a conveyor shifting assembly, said conveyor shifting assembly moves said conveyor from one of said plurality of lanes to an adjacent one of said plurality of lanes.

45. The packaging machine of Claim 33, further comprising a case feed assembly located beneath said plurality of lanes.

46. The packaging machine of Claim 45, wherein said case feed assembly is configured to position a case beneath said lane guides, the case being sized to receive the product delivered into said plurality of lanes.

47. The packaging machine of Claim 46, wherein said case feed assembly includes a feed conveyor, said conveyor delivers the case beneath said plurality of lanes.

48. The packaging machine of Claim 47, wherein said one feed conveyor removes the case from beneath said plurality of lanes.

49. A packaging machine for packaging a product in a case, the packaging machine comprising:

a grid section adjacent to an infeed section;

means for continuously feeding the product to said grid section; and

a case feed section located beneath said grid section, said case feed section is configured to stop the case while the case is being packaged with the product.

50. A packaging machine for packaging products, the packaging machine comprising:

a grid section; and

means for feeding the products to said grid section without having line pressure between the products.

51. A packaging machine for packaging a product, the packaging machine comprising:

an infeed section, said infeed section includes:

a conveyor belt having a first end and a second end;

a spacing mechanism for spacing the product, said spacing mechanism is located at said second end of said conveyor belt;

a grid section located adjacent to said infeed section, said grid section includes:

a plurality of lane guides, said plurality of lane guides being spaced apart to form a plurality of lanes, said plurality of lanes includes an appropriate number of lanes to fill a case;

a support device located at said plurality of lanes; and

a shifting assembly attached to said plurality of lane guides,

wherein said first end of said conveyor belt extends beneath one of said plurality of lanes, said first end of said conveyor belt moves to each said plurality of lanes, said conveyor belt delivers the product to each of said plurality of lanes.

52. The packaging machine of Claim 51, wherein said support device is a support strip, said support strip being located at each of said plurality of lanes and is located beneath said movable conveyor belt, said support strip supports the product.

53. The packaging machine of Claim 51, wherein said support device is a bladder pair mounted to each of said plurality of lane guides.

54. The packaging machine of Claim 51, wherein said spacing mechanism includes a screw.

55. The packaging machine of Claim 51, wherein said spacing mechanism includes a side belt assembly.

56. The packaging machine of Claim 51, wherein said plurality of lanes includes a spare lane.

57. The packaging machine of Claim 51, further comprising a sensor mounted adjacent to said plurality of lanes.

58. A packaging machine for packaging a product, the packaging machine comprising:

an infeed section, said infeed section includes a conveyor belt having a first end and a second end;

a grid section located adjacent to said infeed section, said grid section includes:

a plurality of lane guides, said plurality of lane guides being spaced apart to form a plurality of lanes, said plurality of lanes includes an appropriate number of lanes to fill a case and a spare lane;

a support device located at said plurality of lanes;

a shifting assembly attached to said plurality of lane guides;

a sensor mounted adjacent to said plurality of lanes; and

a controller in electronic communication with said shifting assembly and said conveyor belt,

wherein said first end of said conveyor belt extends beneath one of said plurality of lanes, said first end of said conveyor belt moves to each said plurality of lanes, said conveyor belt delivers the product to each of said plurality of lanes.

59. The packaging machine of Claim 58, wherein said support device is a support strip, said support strip being located at each of said plurality of lanes and is located beneath said movable conveyor belt, said support strip supports the product.

60. The packaging machine of Claim 58, wherein said support device is a bladder pair mounted to each of said plurality of lane guides.

61. The packaging machine of Claim 58, further comprising a spacing mechanism disposed at said second end of said moveable conveyer belt.

62. The packaging machine of Claim 61, wherein said spacing mechanism includes a screw.

63. The packaging machine of Claim 61, wherein said spacing mechanism includes a side belt assembly.

64. A method for packaging a case with a product, comprising:
conveying a first plurality of the product to a first lane;
supporting said first plurality of the product within said first lane;
conveying a second plurality of the product to a second lane;
shifting said first lane and said second lane in a first direction; and
dropping said first plurality of the product into said case.

65. The method of Claim 64, further comprising:

shifting said first lane and said second lane in a second direction opposite said first direction;

supporting said second plurality of the product within said second lane; and

conveying a third plurality of the product to said first lane.

66. The method of Claim 64, further comprising counting a number of said first plurality of the product.

67. The method of Claim 64, wherein said supporting said first plurality of the product includes resting said first plurality of the product on a support strip disposed beneath said first lane.

68. The method of Claim 67, wherein said dropping said first plurality of the product includes maintaining said support strip in a fixed position relative to said first lane.

69. The method of Claim 64, wherein said supporting said first plurality of the product includes squeezing said first plurality of the product between a bladder pair, said bladder pair mounted to said first lane.

70. The method of Claim 64, wherein said shifting said first lane and said second lane includes shifting a lane guide in said first direction to contact said first plurality of the product, wherein said lane guide defines a side of said first lane.

71. The method of Claim 64, said shifting the first lane and said second lane in said first direction includes moving a conveyor, wherein said second plurality of the product is disposed on said conveyor.

72. A method for packaging a case with a product, the method comprising:

continuously feeding a grid section with the product; and

stopping the case at said grid section while the case is being packaged with the product.

73. A method for packaging a case with products, the method comprising feeding the products to a grid section without having line pressure between the products.